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PCT/GB00/00591

## PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING  
OF A CHANGE(PCT Rule 92bis.1 and  
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

MUSKER, David, Charles  
R.G.C. Jenkins & Co.  
26 Caxton Street  
London SW1H 0RJ  
ROYAUME-UNI

|   |   |
|---|---|
| Date of mailing (day/month/year)<br>09 July 2001 (09.07.01) | <b>IMPORTANT NOTIFICATION</b>   |
| Applicant's or agent's file reference<br>J00041084WO        |   |
| International application No.<br>PCT/GB00/00591             | International filing date (day/month/year)<br>18 February 2000 (18.02.00) |

## 1. The following indications appeared on record concerning:

☒ the applicant ☐ the inventor ☐ the agent ☐ the common representative

## Name and Address

ICO SERVICES LIMITED  
1 Queen Caroline Street  
London W6 9BN  
United Kingdom

## State of Nationality

GB

## State of Residence

GB

Telephone No.

Facsimile No.

Teleprinter No.

## 2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☐ the person ☐ the name ☒ the address ☐ the nationality ☐ the residence

## Name and Address

ICO SERVICES LIMITED  
Symphony House  
High Street Cowley  
Cowley Business Park  
Uxbridge  
Middlesex UB8 2AD  
United Kingdom

## State of Nationality

GB

## State of Residence

GB

Telephone No.

Facsimile No.

Teleprinter No.

## 3. Further observations, if necessary:

## 4. A copy of this notification has been sent to:

|  |   |
|--|---|
| <input checked="" type="checkbox"/> the receiving Office                   | <input type="checkbox"/> the designated Offices concerned         |
| <input type="checkbox"/> the International Searching Authority             | <input checked="" type="checkbox"/> the elected Offices concerned |
| <input type="checkbox"/> the International Preliminary Examining Authority | <input type="checkbox"/> other:                                   |

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

Christine Carrié

Telephone No.: (41-22) 338.83.38

## PATENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner  
 US Department of Commerce  
 United States Patent and Trademark  
 Office, PCT  
 2011 South Clark Place Room 524  
 Arlington, VA 22202  
 ETATS-UNIS D'AMERIQUE  
 ETATS-UNIS D'AMERIQUE  
 in its capacity as elected Office

|  |  |
|--|--|
| <b>Date of mailing (day/month/year)</b><br>27 October 2000 (27.10.00)            | <b>Applicant's or agent's file reference</b><br>J00041084WO          |
| <b>International application No.</b><br>PCT/GB00/00591                           | <b>Priority date (day/month/year)</b><br>18 February 1999 (18.02.99) |
| <b>International filing date (day/month/year)</b><br>18 February 2000 (18.02.00) |  |
| <b>Applicant</b><br>WYRWAS, Richard  |  |

1. The designated Office is hereby notified of its election made:

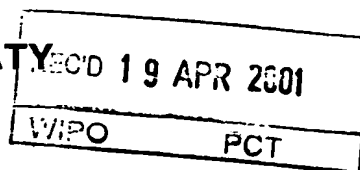
☒ in the demand filed with the International Preliminary Examining Authority on:  
 15 September 2000 (15.09.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was  
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

|  |  |
|--|--|
| <b>The International Bureau of WIPO</b><br>34, chemin des Colombettes<br>1211 Geneva 20, Switzerland | <b>Authorized officer</b><br>Juan Cruz |
| Facsimile No.: (41-22) 740.14.35   | Telephone No.: (41-22) 338.83.38       |



## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

|   |   |  |
|---|---|--|
| Applicant's or agent's file reference<br>J00041084WO                                      | <b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) |  |
| International application No.<br>PCT/GB00/00591   | International filing date (day/month/year)<br>18/02/2000  | Priority date (day/month/year)<br>18/02/1999 |
| International Patent Classification (IPC) or national classification and IPC<br>H04B7/185 |   |  |
| Applicant<br>ICO SERVICES LIMITED et al.  |   |  |

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 4 sheets, including this cover sheet.

- ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

|  |   |
|--|---|
| Date of submission of the demand<br><br>15/09/2000   | Date of completion of this report<br><br>17.04.2001   |
| Name and mailing address of the international preliminary examining authority:<br><br>European Patent Office<br>D-80298 Munich<br>Tel. +49 89 2399 - 0 Tx: 523656 epmu d<br>Fax: +49 89 2399 - 4465 | Authorized officer<br><br>Kolbe, W<br><br>Telephone No. +49 89 2399 8479<br> |

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB00/00591

## I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

### Description, pages:

|      |                     |            |                           |
|------|---------------------|------------|---------------------------|
| 1-20 | as originally filed |            |                           |
| 21   | as received on      | 15/02/2001 | with letter of 14/02/2001 |

### Claims, No.:

|      |                     |            |                           |
|------|---------------------|------------|---------------------------|
| 1-8  | as originally filed |            |                           |
| 9-11 | as received on      | 15/02/2001 | with letter of 14/02/2001 |

### Drawings, sheets:

|         |                     |
|---------|---------------------|
| 1/9-9/9 | as originally filed |
|---------|---------------------|

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB00/00591

4. The amendments have resulted in the cancellation of:

- ☐ the description,      pages:
- ☐ the claims,      Nos.:
- ☐ the drawings,      sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

|                               |      |        |      |
|-------------------------------|------|--------|------|
| Novelty (N)                   | Yes: | Claims | 1-11 |
|                               | No:  | Claims |      |
| Inventive step (IS)           | Yes: | Claims | 1-11 |
|                               | No:  | Claims |      |
| Industrial applicability (IA) | Yes: | Claims | 1-11 |
|                               | No:  | Claims |      |

2. Citations and explanations  
**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/GB00/00591

**Re Item I**

**Basis of the report**

Original claim 9 has been deleted. Original claims 10 to 12 have been clarified and renumbered accordingly.

**Re Item V**

**Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. The invention relates to the problem of mitigating interference in satellite mobile communications systems
2. This problem is solved by determining which of a first beam of a first satellite and a second beam of a second satellite in an area of multiple coverage on Earth is subject to interference at an interference frequency and, as a result of this determination of interference, controlling the communications on the more peripheral of the beams to limit the reception on the interference frequency.
3. WO 9631016 (identified on page 3) is considered to be the closest prior art. This document discloses a method of preventing interference by predicting the zone where the interference will occur and inhibiting transmission into that zone. However, this document does not disclose nor suggest a control of the more peripheral beam of overlapping beams.

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

|   |  |  |
|---|--|--|
| Applicant's or agent's file reference<br><b>J00041084W0</b> | <b>FOR FURTHER ACTION</b> <small>see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.</small> |  |
| International application No.<br><b>PCT/GB 00/ 00591</b>    | International filing date (day/month/year)<br><b>18/02/2000</b>  | (Earliest) Priority Date (day/month/year)<br><b>18/02/1999</b> |
| Applicant<br><br><b>ICO SERVICES LIMITED et al.</b>         |  |  |

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :



contained in the international application in written form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

**4. With regard to the title,**



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

**5. With regard to the abstract,**



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

**6. The figure of the drawings to be published with the abstract is Figure No.**



as suggested by the applicant.



because the applicant failed to suggest a figure.



because this figure better characterizes the invention.

**X** \_\_\_\_\_



None of the figures.

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 00/00591

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 H04B7/185 H04B7/204

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No. |
|------------|--|-----------------------|
| A          | US 5 736 959 A (PATTERSON DAVID PALMER ET AL) 7 April 1998 (1998-04-07)<br>abstract<br>column 6, line 9-24<br>column 13, line 60 -column 14, line 7<br>column 34, line 51-64<br>claims             | 1,7-11                |
| A          | EP 0 858 176 A (ICO SERVICES LTD)<br>12 August 1998 (1998-08-12)<br>cited in the application<br>abstract<br>column 1, line 33 -column 2, line 44<br>column 5, line 35 -column 6, line 37<br>claims | 1-4,9-12              |
|            | ---  |                       |
|            | ---<br>-/--  |                       |

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

15 May 2000

Date of mailing of the international search report

23/05/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Dejonghe, O



# INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 00/00591

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No. |
|------------|--|-----------------------|
| A          | <p>US 5 559 806 A (KURBY CHRISTOPHER N ET AL) 24 September 1996 (1996-09-24)</p> <p>abstract</p> <p>column 2, line 40-56</p> <p>column 4, line 27 -column 5, line 6</p> <p>column 6, line 14 -column 7, line 6</p> <p>figures 1-3,6,7</p> <p>claims</p> <p>-----</p> | 1,6-11                |

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 00/00591

| Patent document<br>cited in search report | Publication<br>date | Patent family<br>member(s) | Publication<br>date |
|---|---------------------|----------------------------|---------------------|
| US 5736959 A                              | 07-04-1998          | US 5408237 A               | 18-04-1995          |
|   |                     | US 5548294 A               | 20-08-1996          |
|   |                     | US 5740164 A               | 14-04-1998          |
|   |                     | AT 146637 T                | 15-01-1997          |
|   |                     | AU 3176893 A               | 07-06-1993          |
|   |                     | CA 2121349 A               | 13-05-1993          |
|   |                     | DE 69216112 D              | 30-01-1997          |
|   |                     | DE 69216112 T              | 12-06-1997          |
|   |                     | EP 0611501 A               | 24-08-1994          |
|   |                     | JP 8500216 T               | 09-01-1996          |
|   |                     | WO 9309614 A               | 13-05-1993          |
|   |                     | AT 182729 T                | 15-08-1999          |
|   |                     | AU 3054992 A               | 07-06-1993          |
|   |                     | CA 2121587 A               | 13-05-1993          |
|   |                     | DE 69229678 D              | 02-09-1999          |
|   |                     | DE 69229678 T              | 06-04-2000          |
|   |                     | EP 0611500 A               | 24-08-1994          |
|   |                     | EP 0935349 A               | 11-08-1999          |
|   |                     | WO 9309613 A               | 13-05-1993          |
| EP 0858176 A                              | 12-08-1998          | JP 10276469 A              | 13-10-1998          |
| US 5559806 A                              | 24-09-1996          | NONE                       |                     |